

## Claims

- [c1] WHAT IS CLAIMED IS:
- 1.A color wheel with balancing groove comprising:  
a carrier having a central axis and a external surface, rotating along the central axis; and  
a set of filter plate sharing the same axis with the carrier;  
wherein at least one annular groove is disposed on the external surface of the carrier, and a balancing substance is applied into the annular groove to balance the color wheel.
- [c2] 2.A color wheel with balancing groove of claim 1, wherein said annular groove is in the shape of a ring.
- [c3] 3.A color wheel with balancing groove of claim 1, wherein said annular groove is extended and passes through the periphery of the carrier.
- [c4] 4.A color wheel with balancing groove of claim 1, wherein said set of filter plate comprises at least a filter plate.
- [c5] 5.A color wheel with balancing groove of claim 1, wherein said annular groove keep a radial distance from the periphery.